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10/533,904	09/27/2005	Aaron Lewis	Lewis/Integrat	8006
23294	7590	12/22/2009	EXAMINER	
JONES, TULLAR & COOPER, P.C. P.O. BOX 2266 EADS STATION ARLINGTON, VA 22202				HOFFMANN, JOHN M
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,904	LEWIS ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 August 2009.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 79-111 is/are pending in the application.
 4a) Of the above claim(s) 83,84,91 and 97-111 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 79-82,85-90 and 92-96 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/10/2006</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, specie A in the reply filed on 8/26/2009 is acknowledged. The traversal is on the ground(s) that applicant disagrees that Group I is drawn to a method of fabricating a surface, because claim 79 does not say anything about fabricating a surface. This is not found persuasive because 1) it does not appear relevant – that is, even if applicant were right, it does not point out how such relate to a single inventive concept under PCT rules or in any way makes the restriction requirement improper. 2) Line 9 of claim 79 clearly recite "fabricating the emitting surface". Although applicant points to other claim limitations - the relevance is not understood – the are of a scope that reads on mental steps which are not physical. The fabricating of the surface is the only physical requirement of the claims.

Applicant indicates that claims 105 and 106 fall under the elected invention. Examiner disagrees. As indicated in the restriction requirement they are directed to the invention of Group III.

The requirement is still deemed proper and is therefore made FINAL.

Claims 83, 84, 91, 97-98, 101-111 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8/26/2009.

Specification

The disclosure is objected to because of the following informalities: The specification refers to "this patent" (page 29, line 1, and elsewhere). However "this" is not a patent. It is unclear how it might serve to effect the scope of any claim/patent that may issue in the future - assuming the claims are amended in the future.

Appropriate correction is required.

Claim Objections

Claim 92 objected to because of the following informalities: claim 92 lacks indents.

From **MPEP 608.01 Form of Claims**

Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation, 37 CFR 1.75(i).

There may be plural indentations to further segregate subcombinations or related steps.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 79-82, 85-90, and 92-96 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains

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subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The MPEP sets forth what must be considered to establish whether the enablement requirement is met.

2164.01(a) Undue Experimentation Factors

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

- (A) The breadth of the claims;
- (B) The nature of the invention;
- (C) The state of the prior art;
- (D) The level of one of ordinary skill;
- (E) The level of predictability in the art;
- (F) The amount of direction provided by the inventor;
- (G) The existence of working examples; and
- (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

(A) The breadth of the claims;

The first step of claim 79 requires: "providing a theoretical simulation...." This is rather broad and encompasses any theory and any simulation which uses this theory. Note, theories can encompass things beyond reality, such as a theory related to creatures from outer space. Thus the claims have a scope beyond generally accepted physics.

(B) The nature of the invention;

The nature of the invention appears to be extremely complex in nature.

Examiner notes [0017] which discusses measuring an atomic force. There is not even an indication of which force (EM force, strong force, weak force or gravitational). Since the invention relies on an unspecified theory- it could relate to a theorized fifth fundamental force of the universe.

(C) The state of the prior art;

The state of the prior art is much below the present invention. Methods of making optical fibers in class 65, generally just involve inorganic chemistry, heat transfer and other non-high-level physics/chemistry.

(D) The level of one of ordinary skill;

As indicated in (C) above, one of ordinary skill is primarily skilled in well accepted physics and chemistry. One of ordinary skill generally has little/no experience in new theories or atomic forces.

(E) The level of predictability in the art;

The level of predictability in the art is high, however given the possibility of a new theory - the predictability may be low.

(F) The amount of direction provided by the inventor;

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Although direction is provided relating to the actual physical fabrication, there is no guidance relating to the theoretical simulation. According to Examiner's dictionary, a theory is "a plausible or scientifically acceptable general principle or body of principles offered to explain phenomena." As per [0042] of the specification, applicant uses a theory, which appears to be "not available previously. However the inventor does not disclose the general principle (or body of principles) nor even the phenomena that such explains. Nor is there any hints or guidance as to what the new theory might be.

[0086] confirms that applicant wishes to cover "other theories to be achieved".

(G) The existence of working examples; and

There is no working examples of the invention – for example any example of providing of a theoretical simulation.

(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

The amount of experimentation can accurately be considered limitless because it encompasses any theoretical simulation - including those based on theories outside generally accepted theories and laws of science.

Looking to all the factors above, Examiner fines that one of ordinary skill would not be able to make or use the present invention, because creating and using a new

theory is beyond the skill level of one of ordinary skill - in particular where there is no indication of the new theory used, or the simulation used by it.

Or, to the extent of that the theory is indicated in the specification, there would be a scope of enablement issue, because the specification does no reasonably provided enablement for any other theory. The claims are of a scope that encompass any theory - including those not yet invented. Inventors generally cannot get patent protection based on theories that are yet made; the purpose of the patent system is promote innovation. It would be counter productive to grant patents based on a hunch that a theory might be discovered in the future. See also the last sentence of page 29 where applicant intends the invention to be used in all areas of optics.

Examiner notes other aspects also appear to lacking in enablement. For example the plural layers on the lens with nanoindentation (claim 90). There is no guidance as to the size/shape of the lens, the thickness of the layers or the number of layers - or the nanoindentation. Nanoindentation is used to measure strength/hardness of materials. There would be an undue amount of experimentation required to make an use this method to determine the physical parameters of the probe.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 79-82, 85-90, and 92-96 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not understood what a "micro" and "submicro" is. Such terms are generally used as prefixes, it is unclear whether they are suppose to be nouns or prefixes in the present claim. And if they are prefixes it is unclear how they and together. That is the "and" of line 1 of claim 79 would mean a "microsubmicronanostructure" – there is no indication as to what this could possibly be.

Examiner finds the use of "and/or" at claim 79, line 1, indefinite as to what is required. It is noted that the term "and/or" typically means "and" or "or" in many areas. However, in patent claim construction, the term "or" almost always means "and" or "or". Thus it is unclear what applicant intends to be meant by including "and/" to the word "or". This also applies to the "and/or" of claims 88 and 82.

There is no antecedent basis for "the structure" - it is unclear if is suppose to be interpreted as "the microstructure". If so, it is unclear whether such already exists. There is no antecedent basis for "the near field". There is no antecedent basis for "said simulation and characterization steps"; that is the 'simulation' in particular. Line 3 only requires providing a simulation (which includes purchasing a simulation). In other words, no part of the claim requires a step of simulating anything. Because of the lack or confusing antecedent bases as described above, the claims are indefinite as to whether the things/steps recited are actually required.

It is unclear what is meant by “predicting” the surface. Prediction involves events – future events. A surface is not an event. According to Examiner’s dictionary to predict is to declare or indicate in advance. Thus a potential competitor might think he could copy applicant’s invention but avoid infringement merely by avoiding making any declarations or indications. This does not seem reasonable. Thus it is unclear what a reasonable interpretation would be.

Claim 80 is confusing as to whether "fabricating" refers to the fabrication of the surface as required by claim 79, or if it is a further fabricating step. It is also unclear if the emitting surface is the emitting surface of claim 79. It is unclear whether the fibers or other waveguide are in addition to the structure of claim 80 – or if they are the same thing. There is confusing antecedent basis for “the end” because most fibers have two ends. And some wave guides have more than two ends, and others have no end.

Claim 82: there is confusing antecedent basis for “theoretical simulation” – it is unclear if it is the simulation of claim 79 or a different simulation. There is also confusing antecedent basis for “exact calculations” and “characterizing”. There is no antecedent basis for “the fabrication of the nanostructure” or even “the nanostructure” - it is clear from the preamble of claim 79 there can be a micro instead of a nanostructure. IT is unclear if the characterization of claim 82 is related to the characterizing step of claim 79, or if it further limits it.

Claim 85: there is confusing antecedent basis for "the step of fabricating" – it is unclear if this should be interpreted as the "predicting and fabricating" step - or if they can be considered separate step.

Claim 85: there is no antecedent basis for "the theoretical simulation of the protrusion structure – it makes it unclear if it implies that claim 79 was intended to require that the simulation is a simulation of protrusion structure.

Claim 86: it is unclear if this fabricating is one of the previously mentioned fabricating steps, or if it is intended to be a fabrication step of the fiber before the other fabricating steps. Or if it is intended to be a product-by-process type limitation to describe what the initial fiber starts as.

Claim 87 – it is unclear if the fabricating is directed to one of the required fabricating steps - or if it merely serves to identify that the term "fabricating" includes/encompasses a step of forming a lens.

Claim 88 there is no antecedent basis for "the...lens". Claim 85 merely recited the purpose of "to form a lens". Thus it is unclear whether such means claims 85 requires a lens. As a comparison, "Mr. Smith bought a bucket of paint to paint his barn" is indeterminate as to whether his barn was ever painted. Likewise claim 85 is (literally) indeterminate as to whether a lens was created. Most noteworthy: claim 88 uses "fiber and/or lens" which indicates one can coat the lens without coating the fiber - which suggests that the lens is not part of the fiber - suggestive of a lens that is attached to the surface of the protrusion. And if one should interpret claim 85 as requiring the result of the intention "to form a lens" it is unclear whether every other intended use-type

limitation of the claims should also be interpreted so narrowly. It is unclear what is meant by "selectively" coating. It makes it unclear if such excludes an automated coating method because there is mental selection process involved.

Claim 92 seems confusing to examiner. Providing indents (see the above objection of claim 92) should remove this confusion. There is confusing antecedent basis for "emitting surface" – it is unclear if it is one of the surfaces of claim 79.

Claim 93: it is unclear if "dielectric" should be interpreted as "dielectric". There is no antecedent basis for "the wavelength of light to be manipulated." Most light is composed of a whole spectrum of wavelengths. It is also unclear if the light of line 7 is suppose to be the light of line 5, and thus whether the "manipulated" is suppose to be the manipulating of line 6, or if it is in reference to a possible future manipulation.

Claim 96 is mildly confusing because it relates to providing optics on the lens (i.e. after it is a lens) but the preamble indicates it is part of the forming (i.e it occurs before the lens is completed. It is suggested that the claim read: The method of claim 95, further comprising providing diffractive optics on the lens.

Claim 81: the term "working distance taper angle" is indefinite as to its meaning. Examiner could find no use of this term in the EAST database, and it is not mentioned in the present specification. Thus one of ordinary skill would not reasonable be able to understand what is meant by this term. Whereas the specification refers to a taper

angle 1.4 in figure 1, such is only a line, not an angle. An angle requires at least two lines - neither of which is the angle itself.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 79-82, 85-87 and 94 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiraishi 5446816.

Claim interpretation: Examiner finds the preamble of the claim 79 does not breathe much life and meaning into the claim because the body of the claim makes no mention of any producing, micro, nanostructure or submicro. The term "for" in line 1, signifies an intended use of the method - it is "for producing a micro..." in another process.

Examiner notes he could find no definition for any of the terms in the specification nor any thing which suggest applicant intended a special meaning for the terms. Also, the terms used do not have any special art-recognized meaning (unless otherwise noted). Therefore, the terms are interpreted using their plain meaning - as is found in a typical dictionary - unless otherwise noted.

A simulation can be: a sham object: counterfeit or the imitative representation of the functioning of one system or process by means of the functioning of another. It is deemed that Figure 2 of SHiraishi is a simulation of what occurs in Figure 4. As to it being theoretical – one can consider it such based on the basic philosophical theory that what we see is what actually exists. As to it being based on an exact numerical calculation. Examiner notes that the claim does not require any step of calculating. Thus it is deemed to be a product-by-process type limitation. That is applicant is merely setting forth the type of simulation which is required by the claim: one that is based on an exact calculation. This is an analogous to a product claim written in a product-by-process format.

MPEP 2113 reads in part:

The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding “interbonded by interfusion” to limit structure of the claimed composite and noting that terms such as “welded,” “intermixed,” “ground in place,” “press fitted,” and “etched” are capable of construction as structural limitations.)<

Examiner notes, by looking at a fiber – or the drawing – one cannot tell whether it was based on exact calculations. As far as examiner can tell such does not impart distinctive structural characteristics to the final product. For example, if one value is 3.44532 is from an exact calculation or an approximation of 3.4453177 or an erroneous calculation that should have been 3.44551 – it is impossible to say by looking at a

simulation. Whether an exact or inexact calculation is used cannot be determined by looking at a simulation. The simulation/fiber inherently has the parameters.

Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

As to the profiling: Examiner's dictionary reports the verb profile to represent in a profile or by a profile: produce (as by drawing, writing, or graphing) a profile of. Figures 2 and 4 of SHiraishi shows a profile of the surface - it is inherent that it was produced thus the surface has been profiled and thus characterized. The ray shows the light at the surface, in the field near the surface and at farther-field distances. The specification does not indicate how far or near "far" and "near" are, thus it is deemed they merely indicate relative distances . SHiraishi's rays have distances farther and nearer than other.

As to predicting and fabrication: it is deemed inherent that Shirashi and the other inventors predicted that they would create an optical fiber - because optical fibers are not things accidentally made. It is clear that the surface was fabricated. All the features are deemed to be integral - for example if Shirashi did not predict (i.e. set out to make) a fiber, it never would have been fabricated, nor simulated nor profiled.

Claim 80 is clearly met.

Claim 81: requires that the providing step include analyzing...for designing an optimal structure". Examiner interprets this to be further product-by-process limitations which do not serve to define over the structure of Shirashi.

Claim 82 appears to be directed to those methods which have a nanostructure - But does not limit those that do not. Such as Shirashi.

Claim 85: it is inherent that all optical fibers were pulled - during their formation, typically from a preform or else a melt. Whether or not the pulling was with the intention "to produce an axial protrusion" is not very relevant, it is clear that it is capable of producing an axial protrusion. It is deemed that Shirashi's fiber (figure 4) is an iteration of the prior art fibers (figures 1-3) and that such involved characterizations thereof. The comparison is clearly made in Shirashi.

Claim 86 is an intended use that does not define over Shirashi; one can use a mirror to direct the light if one so wishes.

Claim 87: it is well understood that nearly all optical fibers are cylindrical lenses.

Claim 94: "high" is a relative term but since there is no standard indicated, it is deemed that Shirashi's index is "high" because it is high enough to waveguide. Being a solid immersion lens is an intended use. Also, one could immerse it in water if one wanted to. It is clearly solid. Although "immersion lens" may have a specific meaning in particular microscopy areas, the present specification is clearly directed to ALL areas of optics (end of page 29) and not limited to microscopy areas

Claim 79 is rejected under 35 U.S.C. 102(b) as being anticipated by Lewis WO00/34810

See the above 102 rejection over Shiraishi which discusses how broadly Examiner interprets claim 79. Under the same reasoning, Lewis also anticipates claim 79.

Claims 79 and 94-96 are rejected under 35 U.S.C. 102(b) as being anticipated by Sharp 48767776

See the above 102 rejection over Shiraishi which discusses how broadly Examiner interprets claim 79. Under the same reasoning, Sharp also anticipates claim 79.

Claim 94: the lens is clearly solid and one could use it for immersion if one so wishes.

Claim 95: See col 2, lines 3-16. The present application describes “laser polishing”. It is deemed that Sharp’s method could be considered “arc polishing”.

Claim 96: see col. 7, line 30.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 88 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi 5446816.

Examiner takes Official Notice that it is well known to coat fibers with resins during their production, because bare glass surfaces are easily scratched and scratches on glass fiber makes them substantially weaker. It would have been obvious to use a

coated fiber in the Shiraishi since they are stronger than non-coated fibers. It would have been further obvious to remove the coating prior to the melting (col. 7, line 12) because the resin would decompose and/or combust at the high temperature needed to melt the glass. It would have been further obvious to recoat the fiber so as to protect the fiber.

Claims 88-90 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis WO00/34810.

As above: Examiner takes Official Notice that it is well known to coat fibers with resins during their production, because bare glass surfaces are easily scratched and scratches on glass fiber makes them substantially weaker. It would have been obvious to use a coated fiber in the Shiraishi since they are stronger than non-coated fibers. It would have been further obvious to remove the coating prior to the melting (col. 7, line 12) because the resin would decompose and/or combust at the high temperature needed to melt the glass. It would have been further obvious to recoat the fiber so as to protect the fiber.

Claims 89-90: See Lewis, page 4, lines 10-14.

Claim 92: See Lewis, figure 2a. 44 is the pattern. It is noted that any shape can be considered a “diffraction pattern”. Because one can obtain substantially any shape via diffraction. Examiner could find no indication in the specification that applicant

intended the term to have a special meaning, or that it excluded the shape of a circle. The intended use limitations do not define over the Lewis method, because one cannot read a person's mind as to what their intentions are/were.

Claim 93 is assumed to be largely directed to theoretical steps, not actual steps. As per [0087] the manipulation can mean that there is actually no dielectric and only one metal layer (even though line 3 recites 'layers').

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Hoffmann
Primary Examiner
Art Unit 1791

/John Hoffmann/
Primary Examiner, Art Unit 1791